

## Abstract

A battery ECU estimates the SOC by integrating the battery current measured by a current sensor, and the battery voltage  $V_n$  is measured by a voltage sensor and the battery temperature  $T_n$  is measured by a thermometer if the fluctuation of the charging/discharging current is great (S204). If the number  $m$  of estimations of  $SOC_n$  is  $m < 10$ ,  $m$  is incremented (S208). The battery internal resistance  $R_n$  is estimated from the measured battery temperature  $T_n$  by using a correlation map showing the correlation between the previously stored battery temperature  $T$  and the battery internal resistance  $R$  (S210). An estimation charging/discharging current  $I_n$  is determined using the measured battery voltage  $V_n$ , the battery open voltage  $V_{ocvn-1}$  determined on the basis of the previously estimated charged state, and the estimated battery internal resistance  $R_n$  (S212). The  $SOC_n$  is estimated by integrating the estimated charging/discharging current  $I_n$  (S214). If the number of estimations of the  $SOC_n$  is  $m = 10$  (S206), the number of estimations  $m$  is changed to 0 (S220). The charging/discharging current  $i_n$  is measured by a current sensor (S222). The battery internal resistance  $R_n$  is calculated from the battery voltage  $V_n$  and the charging/discharging current  $i_n$  (S224). The battery temperature  $T_n$  is also measured, and the T-R correlation map is corrected (S226).